FIG. 1

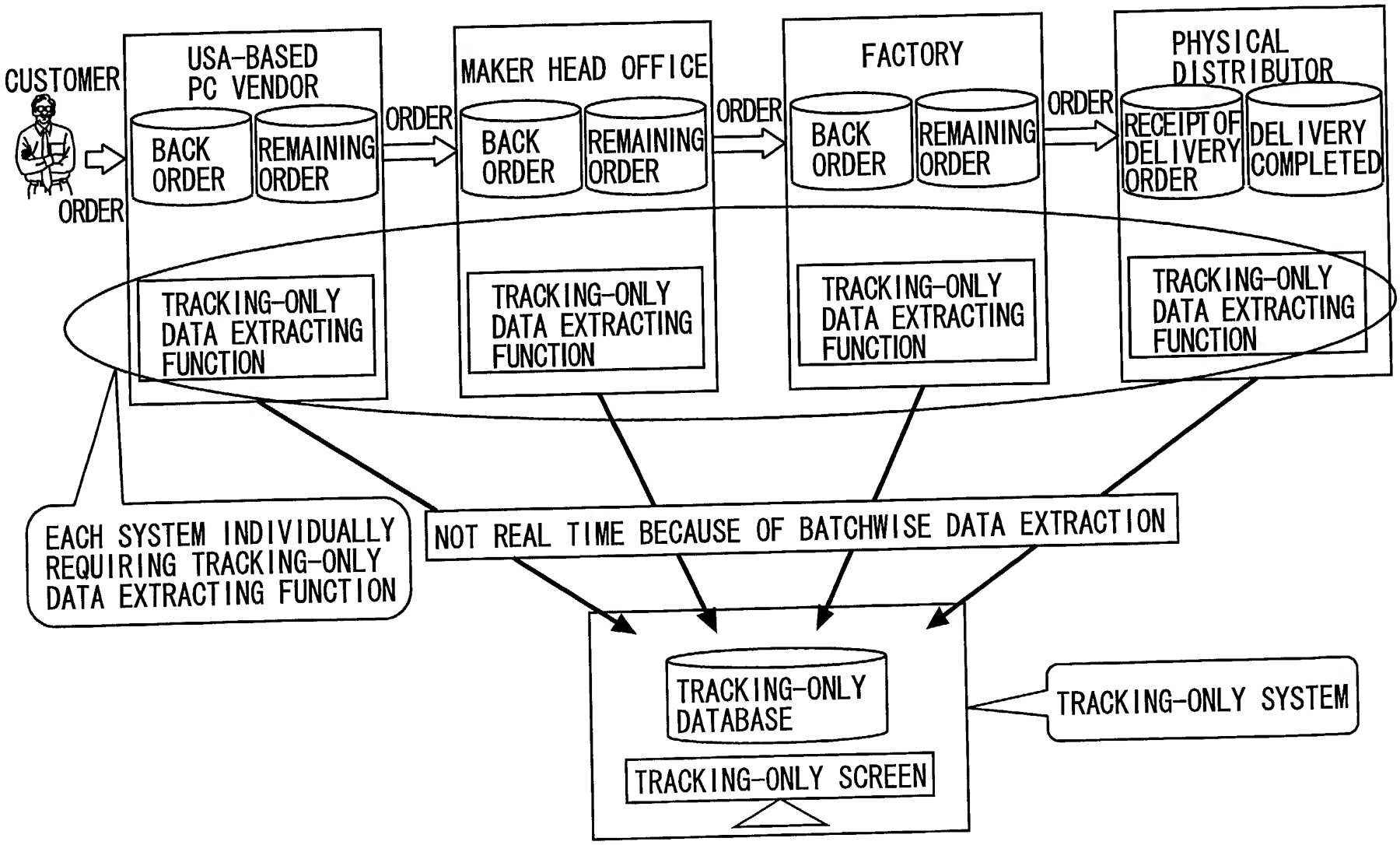

CUSTOMER
ORDER
USA-BASED PC VENDOR
BACK ORDER
REMAINING ORDER
ORDER
MAKER HEAD OFFICE
BACK ORDER
REMAINING ORDER
ORDER
FACTORY
BACK ORDER
REMAINING ORDER
ORDER
PHYSICAL DISTRIBUTOR
RECEIPT OF DELIVERY ORDER
DELIVERY COMPLETED
TRACKING-ONLY DATA EXTRACTING FUNCTION
TRACKING-ONLY DATA EXTRACTING FUNCTION
TRACKING-ONLY DATA EXTRACTING FUNCTION
TRACKING-ONLY DATA EXTRACTING FUNCTION
EACH SYSTEM INDIVIDUALLY REQUIRING TRACKING-ONLY DATA EXTRACTING FUNCTION
NOT REAL TIME BECAUSE OF BATCHWISE DATA EXTRACTION
TRACKING-ONLY DATABASE
TRACKING-ONLY SCREEN
TRACKING-ONLY SYSTEM

FIG. 2

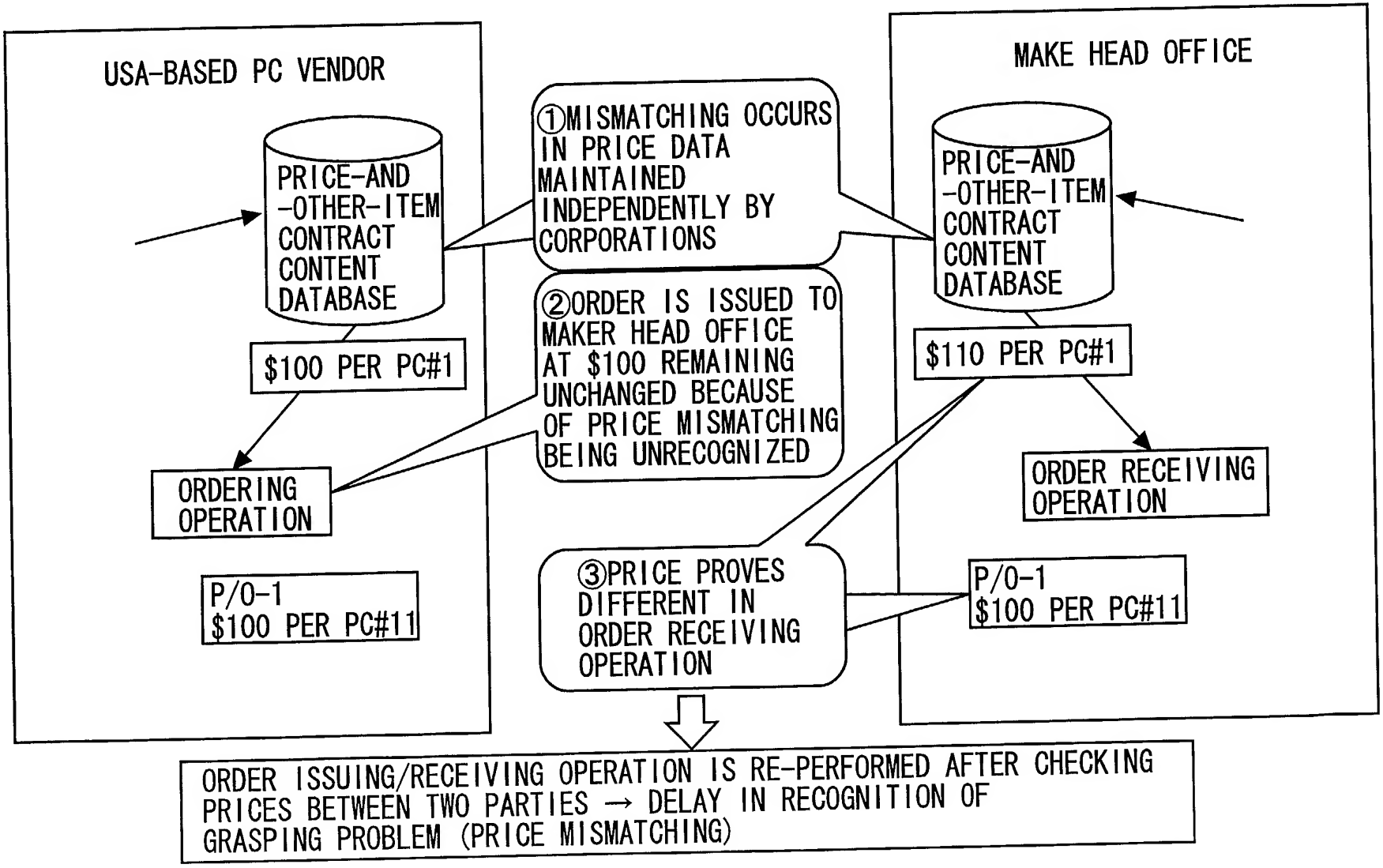

USA-BASED PC VENDOR
PRICE-AND -OTHER-ITEM CONTRACT CONTENT DATABASE
$100 PER PC#1
ORDERING OPERATION
P/O-1 $100 PER PC#11
①MISMATCHING OCCURS IN PRICE DATA MAINTAINED INDEPENDENTLY BY CORPORATIONS
②ORDER IS ISSUED TO MAKER HEAD OFFICE AT $100 REMAINING UNCHANGED BECAUSE OF PRICE MISMATCHING BEING UNRECOGNIZED
③PRICE PROVES DIFFERENT IN ORDER RECEIVING OPERATION
MAKE HEAD OFFICE
PRICE-AND -OTHER-ITEM CONTRACT CONTENT DATABASE
$110 PER PC#1
ORDER RECEIVING OPERATION
P/O-1 $100 PER PC#11
ORDER ISSUING/RECEIVING OPERATION IS RE-PERFORMED AFTER CHECKING PRICES BETWEEN TWO PARTIES → DELAY IN RECOGNITION OF GRASPING PROBLEM (PRICE MISMATCHING)

FIG. 3

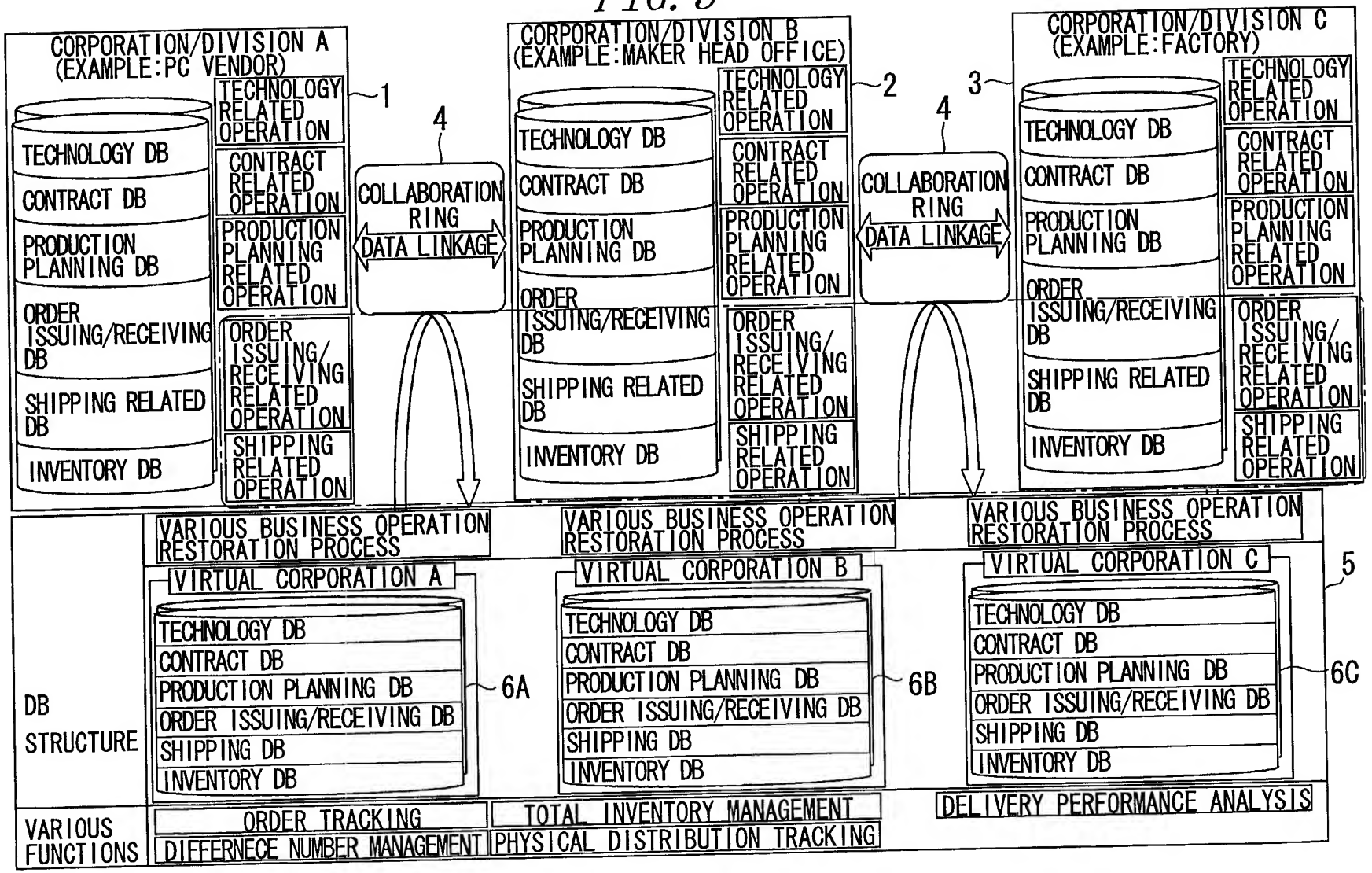

CORPORATION/DIVISION A
(EXAMPLE:PC VENDOR)
TECHNOLOGY DB
CONTRACT DB
PRODUCTION PLANNING DB
ORDER ISSUING/RECEIVING DB
SHIPPING RELATED DB
INVENTORY DB
TECHNOLOGY RELATED OPERATION
CONTRACT RELATED OPERATION
PRODUCTION PLANNING RELATED OPERATION
ORDER ISSUING/RECEIVING RELATED OPERATION
SHIPPING RELATED OPERATION
1
4
COLLABORATION RING
DATA LINKAGE
CORPORATION/DIVISION B
(EXAMPLE:MAKER HEAD OFFICE)
TECHNOLOGY DB
CONTRACT DB
PRODUCTION PLANNING DB
ORDER ISSUING/RECEIVING DB
SHIPPING RELATED DB
INVENTORY DB
TECHNOLOGY RELATED OPERATION
CONTRACT RELATED OPERATION
PRODUCTION PLANNING RELATED OPERATION
ORDER ISSUING/RECEIVING RELATED OPERATION
SHIPPING RELATED OPERATION
2
4
COLLABORATION RING
DATA LINKAGE
CORPORATION/DIVISION C
(EXAMPLE:FACTORY)
TECHNOLOGY DB
CONTRACT DB
PRODUCTION PLANNING DB
ORDER ISSUING/RECEIVING DB
SHIPPING RELATED DB
INVENTORY DB
TECHNOLOGY RELATED OPERATION
CONTRACT RELATED OPERATION
PRODUCTION PLANNING RELATED OPERATION
ORDER ISSUING/RECEIVING RELATED OPERATION
SHIPPING RELATED OPERATION
3
DB STRUCTURE
VARIOUS BUSINESS OPERATION RESTORATION PROCESS
VARIOUS BUSINESS OPERATION RESTORATION PROCESS
VARIOUS BUSINESS OPERATION RESTORATION PROCESS
VIRTUAL CORPORATION A
TECHNOLOGY DB
CONTRACT DB
PRODUCTION PLANNING DB
ORDER ISSUING/RECEIVING DB
SHIPPING DB
INVENTORY DB
6A
VIRTUAL CORPORATION B
TECHNOLOGY DB
CONTRACT DB
PRODUCTION PLANNING DB
ORDER ISSUING/RECEIVING DB
SHIPPING DB
INVENTORY DB
6B
VIRTUAL CORPORATION C
TECHNOLOGY DB
CONTRACT DB
PRODUCTION PLANNING DB
ORDER ISSUING/RECEIVING DB
SHIPPING DB
INVENTORY DB
6C
5
VARIOUS FUNCTIONS
ORDER TRACKING
TOTAL INVENTORY MANAGEMENT
DELIVERY PERFORMANCE ANALYSIS
DIFFERNECE NUMBER MANAGEMENT
PHYSICAL DISTRIBUTION TRACKING

FIG. 4

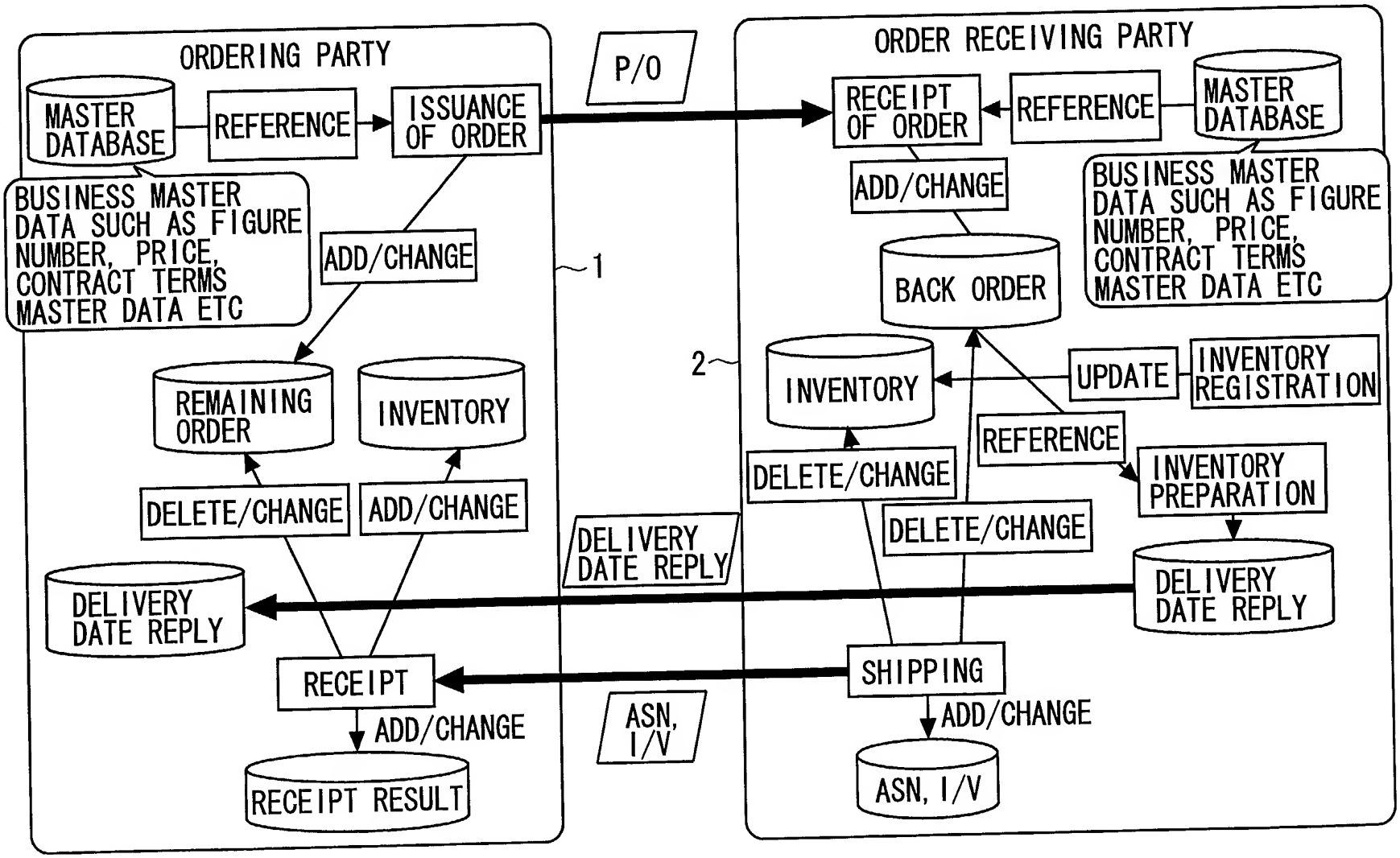

ORDERING PARTY
MASTER DATABASE
REFERENCE
ISSUANCE OF ORDER
BUSINESS MASTER DATA SUCH AS FIGURE NUMBER, PRICE, CONTRACT TERMS MASTER DATA ETC
ADD/CHANGE
1
REMAINING ORDER
INVENTORY
DELETE/CHANGE
ADD/CHANGE
DELIVERY DATE REPLY
RECEIPT
ADD/CHANGE
RECEIPT RESULT
P/O
DELIVERY DATE REPLY
ASN, I/V
ORDER RECEIVING PARTY
RECEIPT OF ORDER
REFERENCE
MASTER DATABASE
ADD/CHANGE
BUSINESS MASTER DATA SUCH AS FIGURE NUMBER, PRICE, CONTRACT TERMS MASTER DATA ETC
BACK ORDER
2
INVENTORY
UPDATE
INVENTORY REGISTRATION
REFERENCE
DELETE/CHANGE
INVENTORY PREPARATION
DELETE/CHANGE
DELIVERY DATE REPLY
SHIPPING
ADD/CHANGE
ASN, I/V

FIG. 5

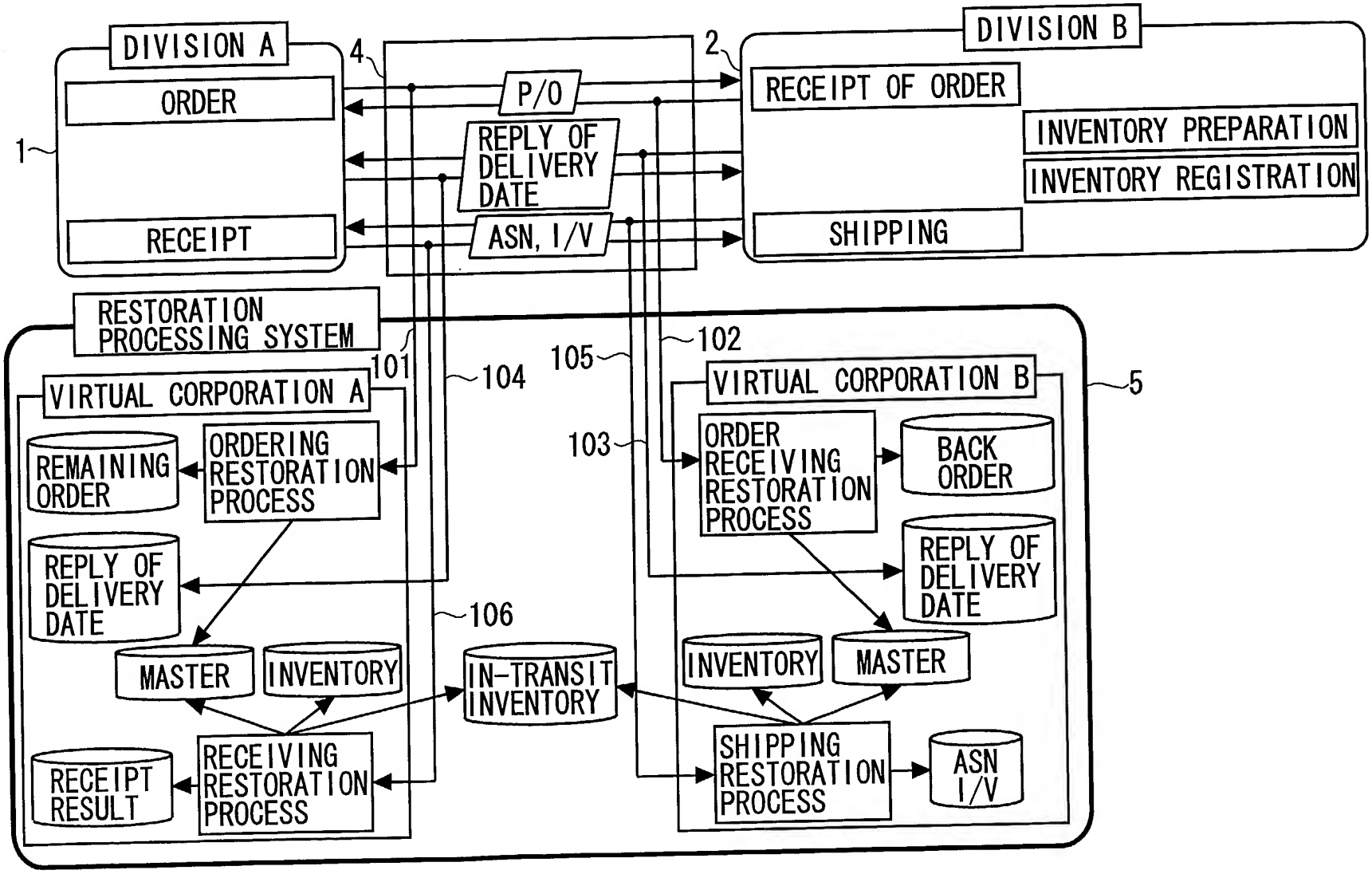
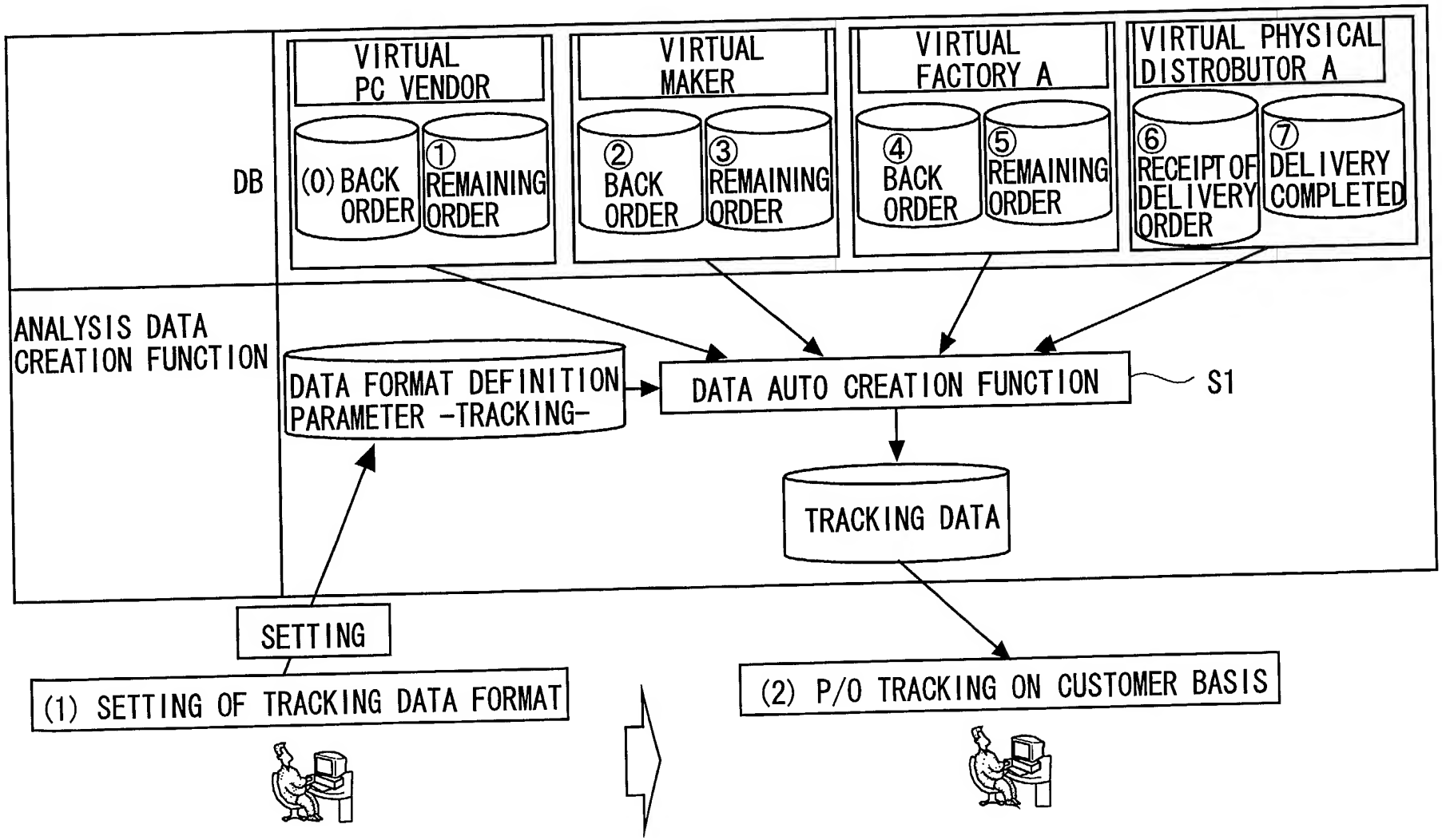

DIVISION A
ORDER
RECEIPT
1
4
P/O
REPLY OF DELIVERY DATE
ASN, I/V
2
DIVISION B
RECEIPT OF ORDER
INVENTORY PREPARATION
INVENTORY REGISTRATION
SHIPPING
RESTORATION PROCESSING SYSTEM
101
104
105
102
VIRTUAL CORPORATION A
VIRTUAL CORPORATION B
5
103
REMAINING ORDER
ORDERING RESTORATION PROCESS
ORDER RECEIVING RESTORATION PROCESS
BACK ORDER
REPLY OF DELIVERY DATE
REPLY OF DELIVERY DATE
106
MASTER
INVENTORY
IN-TRANSIT INVENTORY
INVENTORY
MASTER
RECEIPT RESULT
RECEIVING RESTORATION PROCESS
SHIPPING RESTORATION PROCESS
ASN I/V

FIG. 6


DB
VIRTUAL PC VENDOR
(0) BACK ORDER
① REMAINING ORDER
VIRTUAL MAKER
② BACK ORDER
③ REMAINING ORDER
VIRTUAL FACTORY A
④ BACK ORDER
⑤ REMAINING ORDER
VIRTUAL PHYSICAL DISTROBUTOR A
⑥ RECEIPT OF DELIVERY ORDER
⑦ DELIVERY COMPLETED
ANALYSIS DATA CREATION FUNCTION
DATA FORMAT DEFINITION PARAMETER -TRACKING-
DATA AUTO CREATION FUNCTION
S1
TRACKING DATA
SETTING
(1) SETTING OF TRACKING DATA FORMAT
(2) P/O TRACKING ON CUSTOMER BASIS

JP2002-056064A

FIG. 7

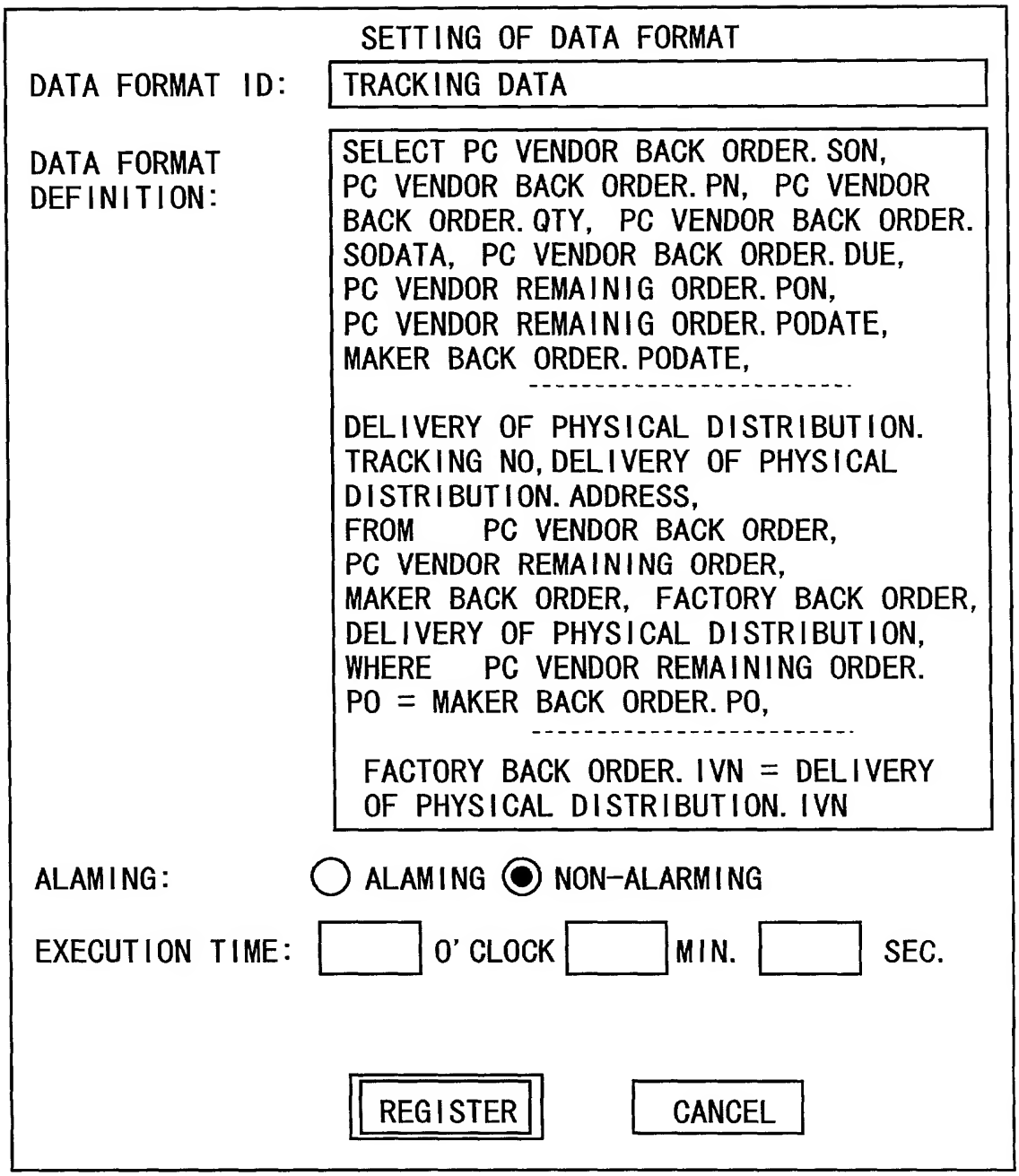
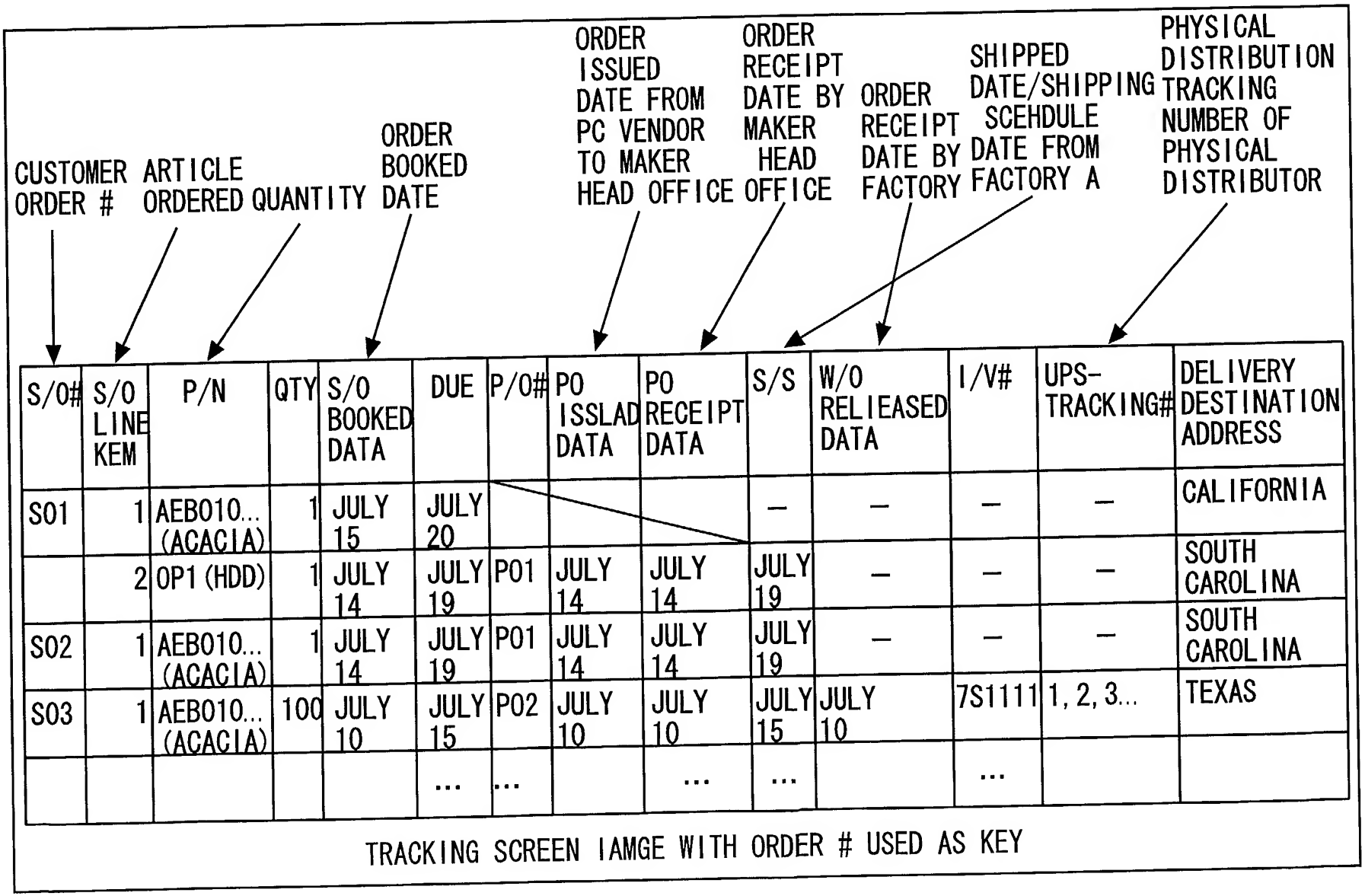


FIG. 8



S/O#	S/O LINE KEM	P/N	QTY	S/O BOOKED DATA	DUE	P/O#	PO ISSLAD DATA	PO RECEIPT DATA	S/S	W/O RELIEASED DATA	I/V#	UPS-TRACKING#	DELIVERY DESTINATION ADDRESS
S01	1	AEB010... (ACACIA)	1	JULY 15	JULY 20				—	—	—	—	CALIFORNIA
	2	OP1 (HDD)	1	JULY 14	JULY 19	P01	JULY 14	JULY 14	JULY 19	—	—	—	SOUTH CAROLINA
S02	1	AEB010... (ACACIA)	1	JULY 14	JULY 19	P01	JULY 14	JULY 14	JULY 19	—	—	—	SOUTH CAROLINA
S03	1	AEB010... (ACACIA)	100	JULY 10	JULY 15	P02	JULY 10	JULY 10	JULY 15	JULY 10	7S1111	1, 2, 3...	TEXAS
					...	...		...	...		...		

TRACKING SCREEN IAMGE WITH ORDER # USED AS KEY

FIG. 9

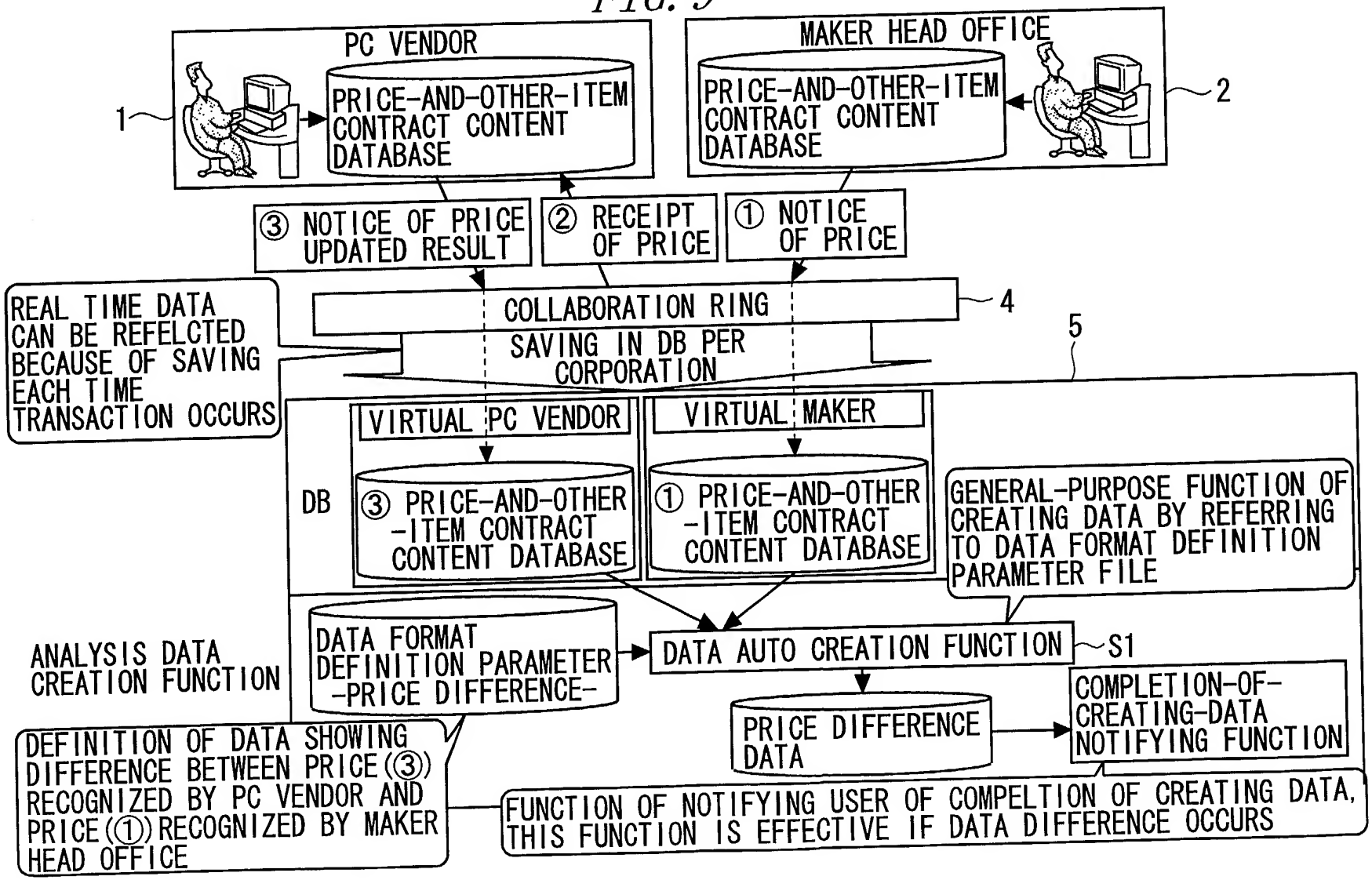

PC VENDOR
PRICE-AND-OTHER-ITEM CONTRACT CONTENT DATABASE
1
MAKER HEAD OFFICE
PRICE-AND-OTHER-ITEM CONTRACT CONTENT DATABASE
2
③ NOTICE OF PRICE UPDATED RESULT
② RECEIPT OF PRICE
① NOTICE OF PRICE
REAL TIME DATA CAN BE REFELCTED BECAUSE OF SAVING EACH TIME TRANSACTION OCCURS
COLLABORATION RING
4
SAVING IN DB PER CORPORATION
5
DB
VIRTUAL PC VENDOR
VIRTUAL MAKER
③ PRICE-AND-OTHER -ITEM CONTRACT CONTENT DATABASE
① PRICE-AND-OTHER -ITEM CONTRACT CONTENT DATABASE
GENERAL-PURPOSE FUNCTION OF CREATING DATA BY REFERRING TO DATA FORMAT DEFINITION PARAMETER FILE
ANALYSIS DATA CREATION FUNCTION
DATA FORMAT DEFINITION PARAMETER -PRICE DIFFERENCE-
DATA AUTO CREATION FUNCTION
S1
PRICE DIFFERENCE DATA
COMPLETION-OF-CREATING-DATA NOTIFYING FUNCTION
DEFINITION OF DATA SHOWING DIFFERENCE BETWEEN PRICE(③) RECOGNIZED BY PC VENDOR AND PRICE(①) RECOGNIZED BY MAKER HEAD OFFICE
FUNCTION OF NOTIFYING USER OF COMPELTION OF CREATING DATA, THIS FUNCTION IS EFFECTIVE IF DATA DIFFERENCE OCCURS

FIG. 10

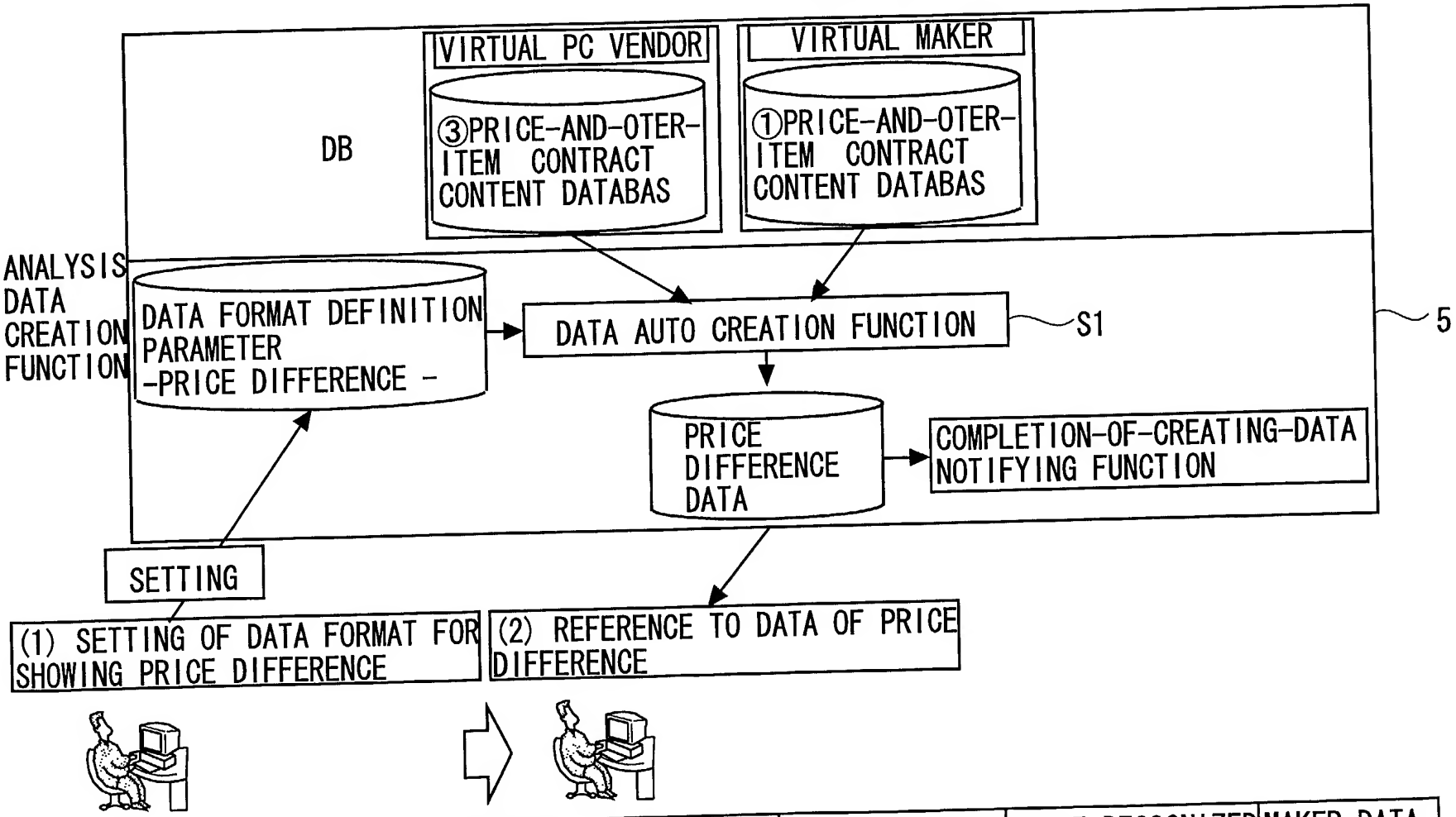


FIGURE NUMBER	PRICE RECOGNIZED BY PC VENDOR	PC VENDOR DATA UPDATE DATE	PRICE RECOGNIZED BY MAKER	MAKER DATA UPDATE DATE
FMW	$100	MAY 1	$150	MAY 10

FIG. 11

SETTING OF DATA FORMAT

DATA FORMAT ID: PRICE DIFFERENCE BETWEEN PC OUTFIT AND MAKER HEAD OFFICE

DATA FORMAT DEFINITION:

```
SELECT MAKER PRICE DB.FIGURE NUMBER,
PC VENDOR PRICE DB.PC VENDOR
RECOGNIZING PRICE, PC VENDOR PRICE
DB.DATA UPDATE DATE, MAKER PRICE DB.
MAKER RECOGNIZING PRICE, MAKER PRICE
DB.DATA UPDATE DATE,
FROM   PC VENDOR PRICE DB, MAKER
PRICE DB,
WHERE   PC VENDOR PRICE DB.FIGURE
NUMBER = MAKER PRICE DB.FIGURE NUMBER
```

ALAMING: (●) ALAMING ( ) NON-ALARMING

EXECUTION TIME: [ ] O'CLOCK [ ] MIN. [ ] SEC.

[REGISTER] [CANCEL]

JP2004-005504

JP2001-350901

FIG. 12

P/O-1
HEADER.
(DESTINATION INFORMATION)
NAME: CORPORATION A) TO: PERSON IN CHARGE OF PURCHASE
ADDRESS: LOS ANGELES, USA

CODE UNIQUE TO CORPORATION A

(CONTRACT TERMS)
FREIGHT TERMS: FOB
ORDERING CORPORATION CODE: (111)
ORDER RECEIVING CORPORATION CODE: (000)

CODE UNIQUE TO CORPORATION B

LINE:

#	FIGURE NUMBER	ARTICLE NAME	QUANTITY	DESIRED DELIVERY DATE	UNIT PRICE
1	FJ-HDD-01	HARDDISK10GB	200	4/10	$180
2	FMW-01	FMWPⅢ800MHz	100	4/10	$856

FIG. 13

CONTRACT TERMS MASTER		
CORPORATION CODE	FREIGHTTERMS	PAYMENT TERMS
000	FOB	COLLECT
PRICE MASTER		
CORPORATION CODE	FIGURE NUMBER	PRICE
000	FJ-HDD-01	$180.00-
	FMW-01	$856.00-
FIGURE NUMBER MASTER		
CORPORATION CODE	FIGURE NUMBER	ARTICLE NAME
000	FJ-HDD-01	HARDDISK10GB
	FMW-01	FMWPⅢ800MHz

US 6,256,650 B1

FIG. 14

REMAINING ORDER P/O HEADER DATA							
P/O#	REVISION NUMBER	ISSUED DATE	NAME OF DESTINATION	ADDRESS OF DESTINATION	FREIGHT TERMS	ORDER RECEIVING CORPORATION CODE	
P/O-1	00	4/1	CORPORATION A) TO: PERSON IN CHARGE OF PURCHASE	LOS ANGELES USA	FOB	000	
...	...		...	...	...		
REMAINING ORDER P/O LINE DATA							
P/O#	LINE#	ISSUED DATE	FIGURE NUMBER	ARTICLE NAME	QUANTITY	DESIRED DELIVERY DATE	UNIT PRICE
P/O-1	1	4/1	FJ-HDD-01	HARDDISK10GB	200	4/10	$180
	2	4/1	FMW-01	FMWPⅢ800MHz	200	4/10	$856
...	...		...	...	...	...	...

FIG. 15

RECEIPT RESULT HEADER DATA										
I/V#	P/O#	REVISION NUMBER	ISSUED DATE	ADDRESS OF RECEIPT PLACE	ORDER RECEIVING CORPORATION CODE	COMPLETION DATE				
I/V-1	P/O-1	00	4/1	LOS ANGELES USA	000					
...	...	...	...	...	...	...				
RECEIPT RESULT LINE DATA										
I/V#	I/V LINE#	P/O#	P/O LINE#	ISSUED DATE	FIGURE NUMBE	ARTICLE NAME	ORDERING QUANTITY	DESIRED DELIVERY DATE	RECEIPT RESULT QUANTITY	RECEIPT DATE
I/V-1	1	P/O-1	1	4/1	FJ-HDD-01	HARDDISK10GB	200	4/10	200	4/10
	2	P/O-1	2	4/1	FMW-01	FMWPIII800MHz	100	4/20	10	4/20
...	...	...		...	...		...		...	

FIG. 16

BACK ORDER P/O HEADER DATA								
P/O#	REVISION NUMBER	ISSUED DATE	NAME OF DESTINATION	ADDRESS OF DESTINATION	FREIGHT TERMS	ORDER RECEIVING CORPORATION CODE	STATUS	
P/O-1	00	4/1	CORPORATION A) TO: PERSON IN CHARGE OF PURCHASE	LOS ANGELES USA	FOB	000	IP	
...	...		...	...	...			
BACK ORDER P/O HEADER DATA								
P/O#	LINE#	ISSUED DATE	FIGURE NUMBER	ARTICLE NAME	QUANTITY	DESIRED DELIVERY DATE	UNIT PRICE	STATUS
P/O-1	1	4/1	FJ-HDD-01	HARDDISK10GB	200	4/10	$180	SHIPPED
	2	4/1	FMW-01	FMWPⅢ800MHz	200	4/10	$856	PROGRESS
...	...		...	...	...	...	...	...

FIG. 17

I/V HEADER DATA						
I/V#	P/O#	P/O REVISION NUMBER	I/V ISSUED DATE	ADDRESS OF DESTINATION		
I/V-1	P/O-1	00	4/9	LOS ANGELES USA		
I/V-2	P/O-1	00	4/10	LOS ANGELES USA		
...	...	...	...	...		
I/V LINE DATA						
I/V#	I/V LINE#	P/O#	P/O LINE#	FIGURE NUMBE	ARTICLE NAME	SHIPPING QUANTITY
I/V-1	1	P/O-1	1	FJ-HDD-01	HARDDISK10GB	200
	2	P/O-1	2	FMW-01	FMWPⅢ800MHz	10
I/V-2	1	P/O-1	2	FMW-01	FMWPⅢ800MHz	90
...	...	...	...	...	...	...

FIG. 18

INVENTORY DATA (ORDERING PARTY)			
FIGURE NUMBER	ARTICLE NAME	PLACE	QUANTITY
FJ-HDD-01	HARDDISK10GB	LOS ANGELES WAREHOUSE	200
FMW-01	FMWPⅢ800MHz	LOS ANGELES WAREHOUSE	10
...	...		...

FIG. 19

EXAMPLE OF IN-TRANSIT			
FIGURE NUMBER	ARTICLE NAME	PLACE	QUANTITY
FMW-01	FMWPⅢ800MHz	(JAPAN → LOS ANGELES)	90
...	...	...	...

DIFFERENCE BETWEEN SHIPPING RESULT IN ORDER RECEIVING PARTY (CORPORATION B) AND RECEIPT RESULT IN ORDERING APRTY (CORPORATION A) IS CONCEIVED AS "IN-TRANSIT". FMW-01 THEREFORE HAS 90 AS IN-TRANSIT INVENTORY

RECEIPT RESULT DB IN ORDERING PARTY (CORPORATION A)

RECEIPT RESULT P/O LINE DATA										
I/V#	I/V LINE#	P/O#	P/O LINE#	ISSUED DATE	FIGURE NUMBER	ARTICLE NAME	ORDERING QUANTITY	DESIRED DELIVERY DATE	RECEIPT RESULT QUANTITY	RECEIPT DATE
I/V-1	1	P/O-1	1	4/1	FJ-HDD-01	HARDDISK10GB		4/10	200	4/10
	2	P/O-1	2	4/1	FMW-01	FMWPⅢ800MHz		4/20	10	4/20
...										

SHIPPING RESULT DB IN ORDER RECEIVING PARTY (CORPORATION B)

I/V LINE DATA						
I/V#	I/V LINE#	P/O#	P/O LINE#	FIGURE NUMBE	ARTICLE NAME	SHIPPING QUANTITY
I/V-1	1	P/O-1	1	FJ-HDD-01	HARDDISK10GB	200
	2	P/O-1	2	FMW-01	FMWPⅢ800MHz	10
I/V-2	1	P/O-1	2	FMW-01	FMWPⅢ800MHz	90
...	...	...	...	...	...	...

FIG. 20

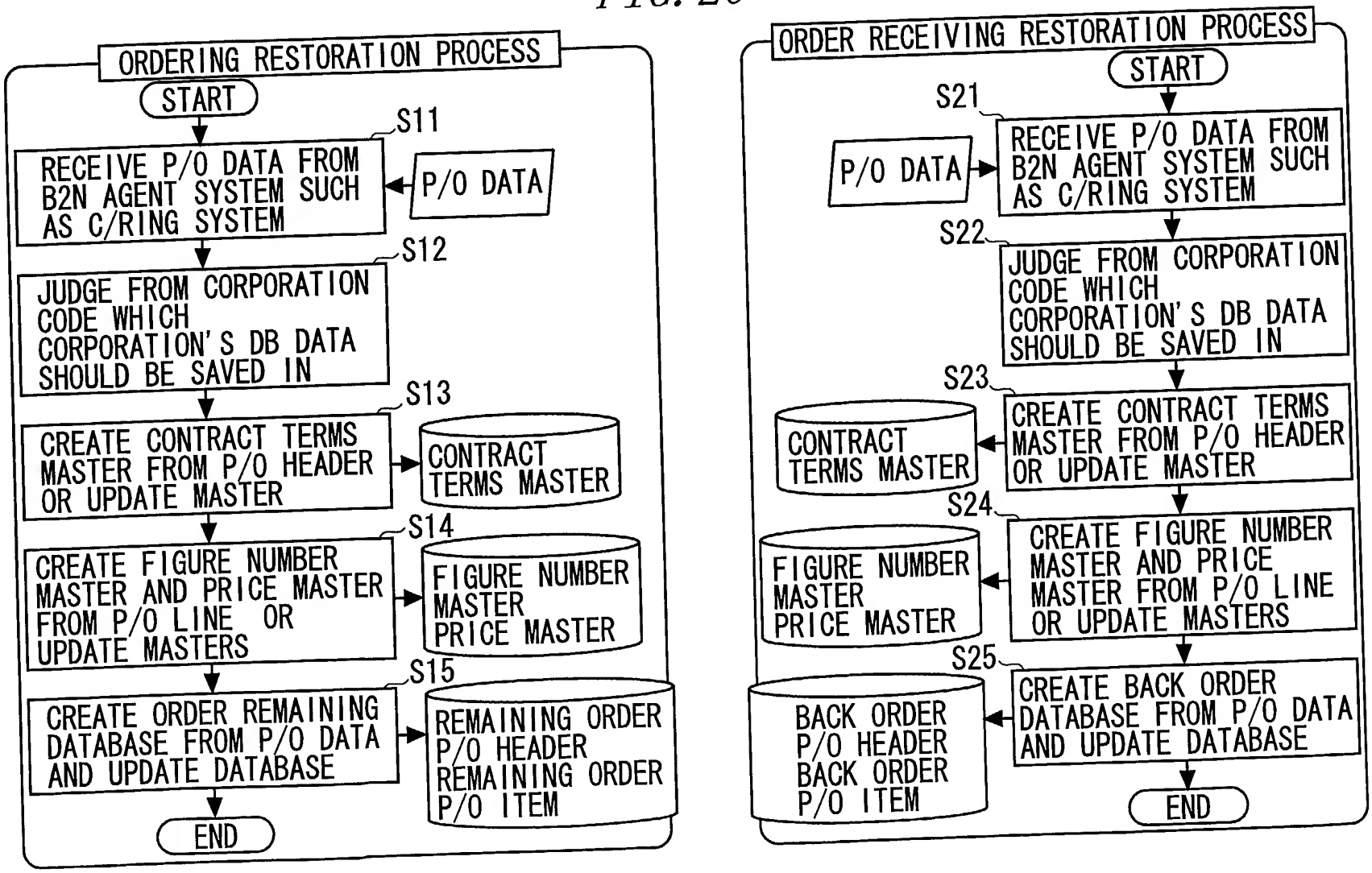
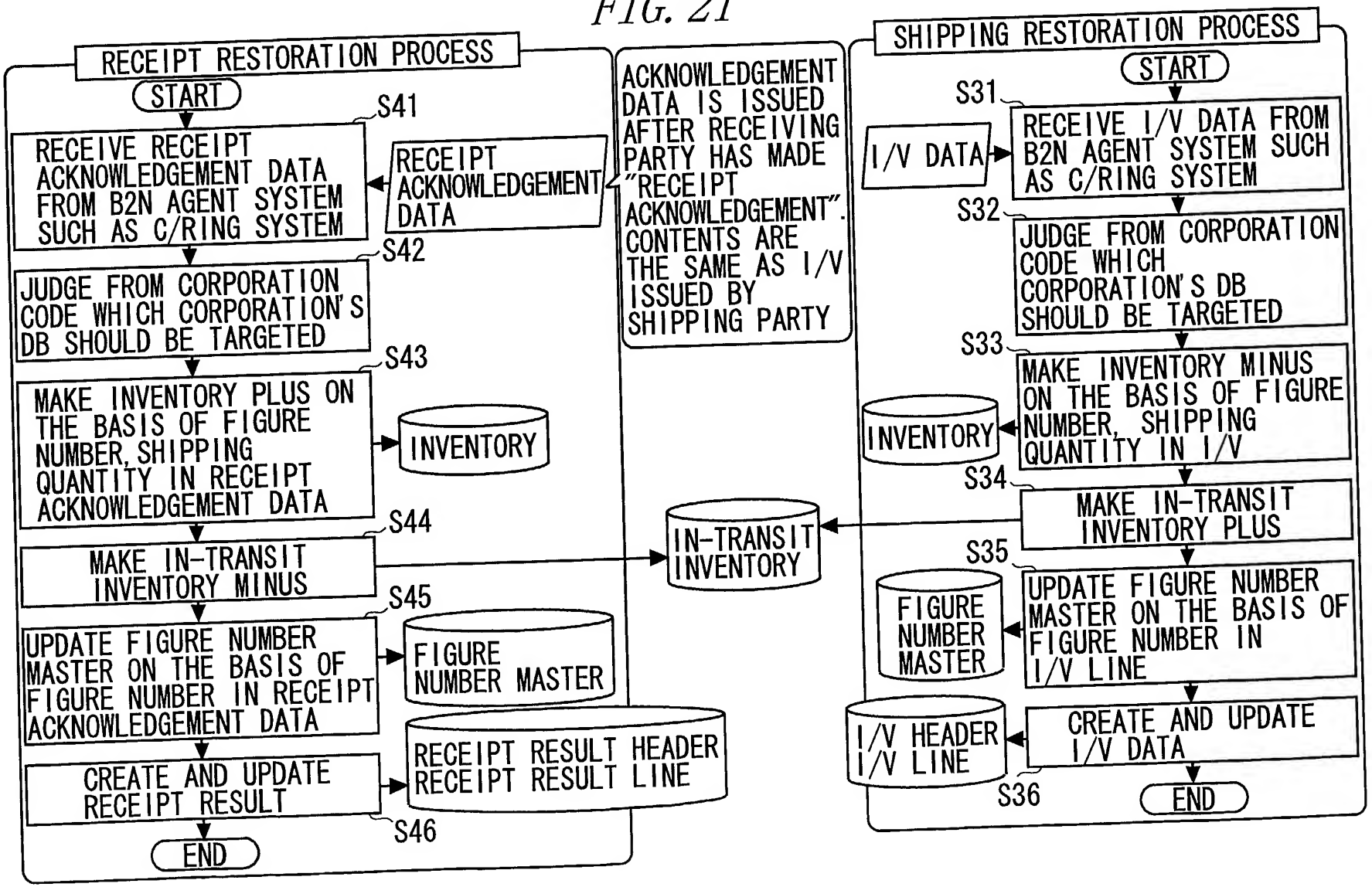

ORDERING RESTORATION PROCESS
START
S11
RECEIVE P/O DATA FROM B2N AGENT SYSTEM SUCH AS C/RING SYSTEM
P/O DATA
S12
JUDGE FROM CORPORATION CODE WHICH CORPORATION'S DB DATA SHOULD BE SAVED IN
S13
CREATE CONTRACT TERMS MASTER FROM P/O HEADER OR UPDATE MASTER
CONTRACT TERMS MASTER
S14
CREATE FIGURE NUMBER MASTER AND PRICE MASTER FROM P/O LINE OR UPDATE MASTERS
FIGURE NUMBER MASTER PRICE MASTER
S15
CREATE ORDER REMAINING DATABASE FROM P/O DATA AND UPDATE DATABASE
REMAINING ORDER P/O HEADER REMAINING ORDER P/O ITEM
END
ORDER RECEIVING RESTORATION PROCESS
START
S21
P/O DATA
RECEIVE P/O DATA FROM B2N AGENT SYSTEM SUCH AS C/RING SYSTEM
S22
JUDGE FROM CORPORATION CODE WHICH CORPORATION'S DB DATA SHOULD BE SAVED IN
S23
CONTRACT TERMS MASTER
CREATE CONTRACT TERMS MASTER FROM P/O HEADER OR UPDATE MASTER
S24
FIGURE NUMBER MASTER PRICE MASTER
CREATE FIGURE NUMBER MASTER AND PRICE MASTER FROM P/O LINE OR UPDATE MASTERS
S25
BACK ORDER P/O HEADER BACK ORDER P/O ITEM
CREATE BACK ORDER DATABASE FROM P/O DATA AND UPDATE DATABASE
END

FIG. 21


RECEIPT RESTORATION PROCESS
START
S41
RECEIVE RECEIPT ACKNOWLEDGEMENT DATA FROM B2N AGENT SYSTEM SUCH AS C/RING SYSTEM
RECEIPT ACKNOWLEDGEMENT DATA
ACKNOWLEDGEMENT DATA IS ISSUED AFTER RECEIVING PARTY HAS MADE "RECEIPT ACKNOWLEDGEMENT". CONTENTS ARE THE SAME AS I/V ISSUED BY SHIPPING PARTY
S42
JUDGE FROM CORPORATION CODE WHICH CORPORATION'S DB SHOULD BE TARGETED
S43
MAKE INVENTORY PLUS ON THE BASIS OF FIGURE NUMBER, SHIPPING QUANTITY IN RECEIPT ACKNOWLEDGEMENT DATA
INVENTORY
S44
MAKE IN-TRANSIT INVENTORY MINUS
IN-TRANSIT INVENTORY
S45
UPDATE FIGURE NUMBER MASTER ON THE BASIS OF FIGURE NUMBER IN RECEIPT ACKNOWLEDGEMENT DATA
FIGURE NUMBER MASTER
CREATE AND UPDATE RECEIPT RESULT
RECEIPT RESULT HEADER RECEIPT RESULT LINE
S46
END
SHIPPING RESTORATION PROCESS
START
S31
I/V DATA
RECEIVE I/V DATA FROM B2N AGENT SYSTEM SUCH AS C/RING SYSTEM
S32
JUDGE FROM CORPORATION CODE WHICH CORPORATION'S DB SHOULD BE TARGETED
S33
INVENTORY
MAKE INVENTORY MINUS ON THE BASIS OF FIGURE NUMBER, SHIPPING QUANTITY IN I/V
S34
MAKE IN-TRANSIT INVENTORY PLUS
S35
FIGURE NUMBER MASTER
UPDATE FIGURE NUMBER MASTER ON THE BASIS OF FIGURE NUMBER IN I/V LINE
I/V HEADER I/V LINE
CREATE AND UPDATE I/V DATA
S36
END